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AMENDED IN SENATE JUNE 21, 2011

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AMENDED IN ASSEMBLY MARCH 31, 2011

CALIFORNIA LEGISLATURE—2011–12 REGULAR SESSION

ASSEMBLY BILL

No. 296

Introduced by Assembly Member Skinner
(Coauthors: Assembly Members Blumenfield, Fletcher, and Gordon)
(Coauthor: Senator Hancock)

February 9, 2011

An act to add ~~Chapter 5 (commencing with Section 14457) to Part 5 of Division 3 of Title 2 of Section 14457~~ to the Government Code, and to add Section 18941.9 to the Health and Safety Code, relating to building standards.

LEGISLATIVE COUNSEL'S DIGEST

AB 296, as amended, Skinner. ~~Building standards: cool pavement.~~
Department of Transportation: paving materials.

(1) Existing law ~~requires~~ *provides that* the Department of Transportation ~~to adopt a balanced, multimodal research and development program, including the research and development of new technologies is responsible for the maintenance and improvement of the state highway system.~~

This bill would ~~establish the Cool Pavements Research and Implementation Act and would encourage the department to consult~~

and coordinate with specified state agencies, to implement the act. The bill would require the department to publish or make available on the department's Internet Web site *develop one or more standard specifications for cool pavements and materials*, by January 1, 2014, a Cool Pavements Handbook to detail specifications, testing protocols, and best practices for cool pavements.

The bill would require the department to implement one or more cool pavement pilot projects, with the goal of completion of the pilot projects no later than January 1, 2018, and to submit a report to the Legislature with an analysis of the various costs of pavement surfaces and the results of the cool pavement pilot projects.

(2) The California Building Standards Law requires any building standard adopted or proposed by a state agency to be submitted to, and approved or adopted by, the California Building Standards Commission prior to codification.

This bill would require the commission, in the next triennial adoption process of the California Green Building *Standards* Code that begins on or after January 1, 2015, to consider incorporating those specifications proposed in the Cool Pavements Handbook as additional strategies for Heat Island Effect: Hardscape Alternatives in the California Green Building Standards Code.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

1 *SECTION 1. Section 14457 is added to the Government Code,*
2 *to read:*
3 *14457. (a) On or before January 1, 2014, the department shall,*
4 *through a new or existing process, develop one or more standard*
5 *specifications for cool pavements or materials, and may identify*
6 *existing standard specifications of the department that have cool*
7 *pavements or materials.*
8 *(b) The department, when developing sustainable cool pavement*
9 *technologies and performing life cycle analyses of pavements,*
10 *shall consider potential greenhouse gas reductions and energy*
11 *reductions, and improvements to local public health, water quality,*
12 *and other local and global benefits during the use phase of the*
13 *pavement.*

1 ~~SECTION 1. The Legislature finds and declares all of the~~
2 ~~following:~~

3 ~~(a) The heat island effect (HIE) is a phenomenon characterized~~
4 ~~by a temperature differential between developed and rural lands.~~

5 ~~(b) The cause of the HIE is land modification in urban and~~
6 ~~suburban areas, principally with impervious hardscape materials~~
7 ~~that absorb more heat energy from the sun than do soil or vegetative~~
8 ~~surfaces. As a result, surrounding surface and air temperatures~~
9 ~~become artificially elevated contributing to air quality decline and~~
10 ~~other public health and environmental issues in urban areas.~~

11 ~~(c) Impervious hardscape cover is also a major contributor to~~
12 ~~stormwater runoff, contributing to water pollution and elevating~~
13 ~~water temperatures.~~

14 ~~(d) The intent of this act is to have the Department of~~
15 ~~Transportation (Caltrans) publish statewide specifications and best~~
16 ~~practices for using “cool pavements” that reduce the HIE from~~
17 ~~sidewalks, roads, plazas, highways, parking lots, schoolyards, or~~
18 ~~any surface designed for vehicular or pedestrian use.~~

19 ~~(e) The publication is meant to increase awareness of paving~~
20 ~~options that mitigate, rather than contribute to, the HIE and other~~
21 ~~impacts of impervious hardscape surfaces. Hardscape alternatives,~~
22 ~~also known as “cool pavements,” such as those with high solar~~
23 ~~reflectivity, provide one or more of the following benefits:~~

24 ~~(1) Reduced outdoor surface and air temperatures.~~

25 ~~(2) Reduced formation of ground-level ozone or smog.~~

26 ~~(3) Reduced wear from diurnal thermal stress.~~

27 ~~(4) Indirectly reduced demand for electricity, and thereby~~
28 ~~reduced emissions.~~

29 ~~(5) Reduced stormwater runoff.~~

30 ~~(f) Examples of cool pavements include, but are not limited to,~~
31 ~~high albedo pavements and coatings, vegetative surfaces, porous~~
32 ~~or pervious pavements that allow water infiltration, and pavements~~
33 ~~shaded by trees and other sources of shade.~~

34 ~~(g) The specifications, testing protocols, and best practices~~
35 ~~established by this act should complement the voluntary~~
36 ~~nonresidential provision in the California Green Building Standards~~
37 ~~Code on Heat Island Effect: Hardscape Alternatives (Section~~
38 ~~A5.106.11.1 of Appendix 5 of Part 11 (commencing with Section~~
39 ~~101.1) of Title 24 of the California Code of Regulations), while~~
40 ~~expanding the allowable ways to meet the goals of that provision.~~

~~(h) This act provides for the development of a Cool Pavements Handbook by the Department of Transportation (Caltrans), in consultation with other relevant state agencies and departments. The handbook is intended to be limited to a collection of existing specifications, testing protocols, and best practices for hardscape alternatives that reduce the effect specified in subdivision (b), relative to traditional hardscape surfaces.~~

~~(i) This act further provides for one or more cool pavement pilot projects to be developed and studied to evaluate the economic, environmental, and public health benefits of cool pavements.~~

~~SEC. 2. Chapter 5 (commencing with Section 14457) is added to Part 5 of Division 3 of Title 2 of the Government Code, to read:~~

~~CHAPTER 5. COOL PAVEMENTS RESEARCH AND
IMPLEMENTATION ACT~~

~~14457.— For purposes of this chapter, the following definitions shall apply:~~

~~(a) “Cool pavement project” means a project that uses a cool pavement to reduce the heat island effect by meeting the criteria specified in the Cool Pavements Handbook published pursuant to Section 14459.~~

~~(b) “Heat island effect” or “HIE” means the temperature differential between developed and rural areas caused by impervious hardscape materials.~~

~~14458.— (a) In implementing this chapter, the department is encouraged to consult and coordinate with the Department of General Services, the California Building Standards Commission, the State Water Resources Control Board, the State Energy Resources Conservation and Development Commission, the State Air Resources Board, the State Water Quality Control Board, the Department of Forestry and Fire Protection, the Strategic Growth Counsel, and any other relevant state department or agency.~~

~~(b) The department may enter into an agreement with the United States Department of Transportation, the United States Environmental Protection Agency, the United States Department of Energy, or other federal agencies, to coordinate implementation of Sections 14459 and 14460, including studying the environmental benefits, energy savings, life cycle, and durability of various pavement options.~~

1 ~~(e) This chapter shall be known, and may be cited, as the Cool~~
2 ~~Pavements Research and Implementation Act.~~

3 ~~14459. (a) On or before January 1, 2014, the department shall,~~
4 ~~with input from other relevant agencies listed in subdivision (a)~~
5 ~~of Section 14458, publish or make available on its Internet Web~~
6 ~~site a Cool Pavements Handbook that incorporates existing~~
7 ~~specifications, testing protocols, and best practices, as appropriate,~~
8 ~~for cool pavement use.~~

9 ~~(b) The Cool Pavements Handbook shall identify cool pavement~~
10 ~~paving materials or techniques that do one or more of the~~
11 ~~following:~~

12 ~~(1) Reduce surface temperature relative to traditional, unshaded~~
13 ~~asphalt concrete.~~

14 ~~(2) Have a light color or high albedo.~~

15 ~~(3) Reduce diurnal thermal stress.~~

16 ~~(4) Remove greenhouse gases through photocatalytic or~~
17 ~~photosynthetic processes.~~

18 ~~(5) Reduce stormwater runoff via increased water infiltration~~
19 ~~to the underlying surface, including, but not limited to, using~~
20 ~~porous pavements, open-grid systems, vegetative surfaces, or~~
21 ~~bioswales.~~

22 ~~(c) The department may include in the Cool Pavements~~
23 ~~Handbook any other material or technique found by the~~
24 ~~departments to reduce the HHE, ozone formation, or stormwater~~
25 ~~runoff.~~

26 ~~(d) The Cool Pavements Handbook shall include specifications~~
27 ~~and best practices, where available, for sidewalks, roads, plazas,~~
28 ~~highways, parking lots, schoolyards, or any surface designed for~~
29 ~~vehicular or pedestrian use.~~

30 ~~(e) The Cool Pavements Handbook shall be referenced in the~~
31 ~~relevant sections of the department's Construction Manual and be~~
32 ~~made available to the public.~~

33 ~~14460. (a) The department shall implement one or more cool~~
34 ~~pavement pilot projects, with the goal of completing construction~~
35 ~~by January 1, 2015, and completing an analysis of the pilot projects~~
36 ~~no later than January 1, 2018.~~

37 ~~(b) On or before January 1, 2018, the department shall submit~~
38 ~~a report to the Legislature in accordance with Section 9795. The~~
39 ~~report shall include an analysis of the upfront and life-cycle costs~~
40 ~~of using various pavement surfaces and the results of the cool~~

1 pavement pilot projects. The report shall also include the
2 environmental benefits, energy savings, and durability of various
3 pavement options.

4 (e) The requirement for submitting a report imposed under
5 subdivision (b) is inoperative on January 1, 2022, pursuant to
6 Section 10231.5 of the Government Code.

7 ~~SEC. 3.~~

8 *SEC. 2.* Section 18941.9 is added to the Health and Safety
9 Code, to read:

10 18941.9. The commission shall, in the next triennial adoption
11 process for the code adopted after January 1, 2015, consider
12 incorporating those specifications proposed pursuant to Section
13 ~~14459~~ 14457 of the Government Code as additional strategies for
14 Heat Island Effect: Hardscape Alternatives in the California Green
15 Building Standards Code (Section A5.106.11.1 of Appendix 5 of
16 Part 11 (commencing with Section 101.1) of Title 24 of the
17 California Code of Regulations).